

CIRCULATION ELEMENT
and BICYCLE
FACILITIES SECTION

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- ON THE MOVEMENT
OF PEOPLE
AND GOODS...



UNIT 2
OF THE
CARSON GENERAL PLAN

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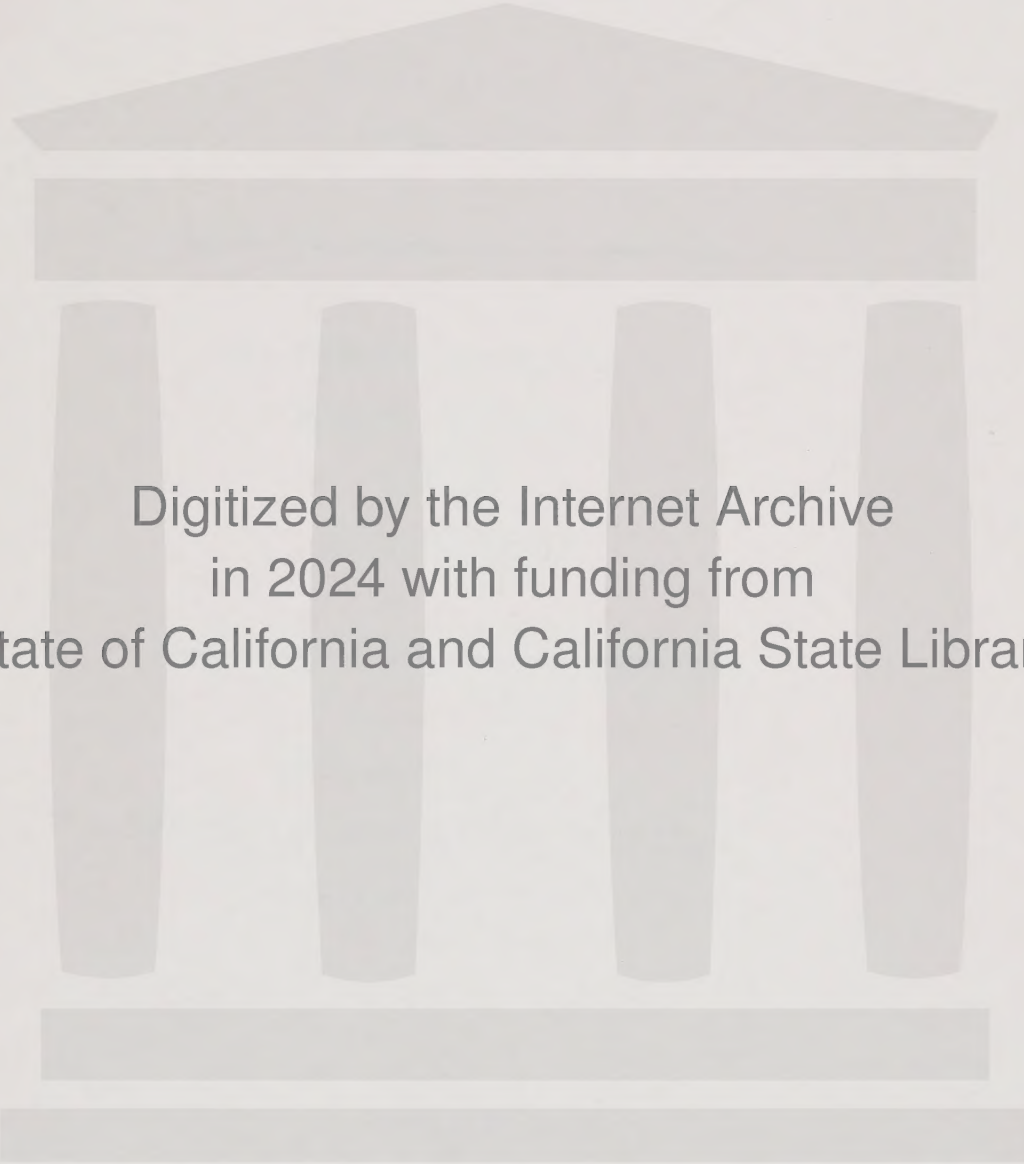


CITY OF CARSON
CALIFORNIA

CIRCULATION ELEMENT AND
BICYCLE SECTION
OF THE
GENERAL PLAN

Prepared by the
COMMUNITY DEVELOPMENT DEPARTMENT
PLANNING DIVISION

Revised
December 11, 1981



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Planning Commission

and

City Council Actions

The Planning Commission, at their October 27, 1981 meeting recommended certain amendments to the General Plan (Phase II) as set forth in Resolution Nos. 81-596 through 81-613.

The City Council at their December 11, 1981 meeting adopted Resolution No. 81-253 which amended the General Plan as outlined in these documents.

INTRODUCTION

On the movement of people and goods...

An important factor in the growth, development and continued vitality of the City is the provision of an efficient transportation system to move people and goods. This unit includes the Circulation Element of the General Plan which is mandated under state law and a section of the Circulation Element which relates to the Bikeway Facilities Master Plan.

The transportation system consists of various categories of streets, public transit routes and services, terminals and bikeway corridors, all correlated with the Land Use Element presented in Unit 1. The overall system provides for access to Carson from the surrounding areas and the movement of people and goods within and around the City. The basic goal is to provide a balanced transportation system for the safe and efficient movement of vehicles and pedestrians which reinforces surrounding land development patterns and enhances regional transportation services while promoting opportunities for fuel conservation.

CIRCULATION ELEMENT

THE CIRCULATION ELEMENT

Introduction

As the American populace each year becomes more dependent upon the automobile as the main means of transportation, the importance of positive highway and street planning becomes crucial, particularly in mobile Southern California.

The primary function of a highway system is to provide expeditious movement of people and goods. The fact that no metropolitan area can survive without such movement proves the economic importance of highway planning. Conversely, the highway system has had a profound effect upon land use since the advent of the automobile. The benefits offered are speed, comfort, convenience and privacy and account for the emergence of the automobile in the transportation sphere. However, the automobile has had harmful effects, because per capita metropolitan living costs rise with increasing and expanding growth patterns. Proper highway planning can help to eliminate some of these costs.

Fortunately, the topography of the City has minimal effect upon the overall highway development: elevations vary only from 0 to 200 feet. The most difficult obstacle has been to overcome the flooding of lower lying depressions. New drainage techniques have proven more than adequate in this respect so that topography is no longer a determining factor in the planning of highways.

This Element describes the general location and extent of existing and proposed major thoroughfares, terminals and other facilities of the City of Carson. Specifically, the circulation system consists of the following goals and objectives:

GOALS AND OBJECTIVES

1. Support planned land uses, and relate transportation to land uses.
2. Promote the efficient transport of goods and the safe and effective movement of all segments of the population.
3. Make efficient use of existing transportation facilities.
4. Protect environmental quality, and protect the wise and equitable use of economic and natural resources.
5. Reduce congestion on City streets.

6. Minimize non-local traffic within residential neighborhoods.
7. Correct localized traffic operational problems.
8. Ensure that all streets within the City have surfaces and drainage systems in good repair.
9. Ensure adequate street improvements, such as curbs, gutters, sidewalks, pavement and street lights.
10. Provide specialized routes for commercial vehicles to minimize residential and public school disturbances.
11. Conform to and support the regional transportation plan.
12. Encourage the development of mass transit facilities within the City and surrounding planning area.
13. Promote the widening of highways, opening of streets, construction of railroad grade separations and coordination of local circulation with regional facilities.
14. Ensure adequate ingress and egress to all land use developments to protect the safety of vehicular and pedestrian circulation patterns.
15. Streets in poor condition will be repaired, resurfaced, reconstructed or replaced, as necessary, through the implementation of an on-going capital improvement program coordinated with the installation, repair or replacement of underground utilities.

This section reviews the existing circulation system, identifies key circulation problems and issues, and presents recommendations for improvement of the thoroughfare system.

Functional Classification

A functional classification of all streets within the City is a necessary first step in identifying traffic and circulation problem areas and in prescribing needed improvements.

Streets and related traffic control devices must all be considered as elements of an overall, interrelated system. This requires that decisions to install traffic engineering improvements (e.g., street closures, left-turn restrictions, traffic signals, etc.) be considered in terms of their impact on adjacent streets, traffic movements, intersections and neighborhoods.

Without a systematic approach to circulation planning, the result is a mixture of traffic control policies and practices which can create confusion, inconvenience and accidents.

The currently accepted approach to "sorting out" the complex interrelationship of elements is first to classify each street in the City according to the function it should perform. Decisions regarding traffic control devices and restrictive measures can then be prescribed in a relatively straightforward manner to assure that the desired functions are achieved. In addition, this procedure permits the identification of deficiencies in the street system.

Several factors were considered in identifying the functional classification of streets in Carson. These include:

1. The designation of Carson's streets under the Los Angeles County Master Plan of Highways prior to the City's incorporation.
2. Distances the streets and highways extend continuously beyond City boundaries.
3. Type and density of abutting land uses.
4. Spacing relative to the network of streets serving surrounding communities.
5. Number of traffic lanes and type of traffic control at major intersections.

Five separate street classifications, including state highways or freeways, are listed as follows:

- Major Highways. A major highway is intended to serve all types of trips, with a significant proportion representing vehicle trips destined beyond the boundaries of the City or neighboring communities. Major highways are limited access streets with a primary function of moving traffic from one region to another. The major highways are used by buses and trucks, as well as automobiles, and therefore, parking may be restricted or prohibited. Major highways in urbanized areas can be expected to carry in excess of 16,000 vehicles per day, require at least two moving lanes in each direction and require rights-of-way

of 100 feet or more. They are coordinated with the freeway system to allow continuity of flow.

- Secondary Highways. A secondary highway is intended to serve all types of vehicle trips, with emphasis on trips within the community rather than on trips beyond the City boundaries. These streets are important in terms of servicing abutting land uses and providing additional capacity to the overall system. The range of traffic volumes that can be expected on secondary highways will vary significantly, depending upon the density of adjacent development to be served, spacing of major arterial routes and the continuity of the streets. These volumes will likely vary between 6,000 and 15,000 vehicles per day. Secondary highways require a minimum right-of-way of 80 feet.
- Collector Streets. A collector street is intended to serve only vehicle trips generated to and from the City's neighborhoods. The function of this type of street is to collect and distribute traffic between the neighborhoods and major secondary highways. Collector streets should not serve through-traffic and should not have continuity beyond one and one-half miles. These streets typically carry between 2,000 and 5,000 vehicles per day, requiring a minimum right-of-way of 60 feet.
- Local Streets. A local street is intended to serve only vehicle trips generated by land uses abutting the street and by circulation from adjacent local streets. The local street moves vehicles from individual properties to collector streets. The function of this street is local access within a neighborhood from a collector street, and it should serve no other purpose. Local access streets can be expected to carry less than 1,500 vehicles per day and should be designed accordingly. All streets in Carson, not otherwise classified, are local streets. Local streets should provide a right-of-way ranging from 48 to 58 feet in width, depending on specific conditions in the area.

- State Highways. The City is also served by four freeways: the San Diego Freeway, which bisects the City in an east-west direction; the Harbor Freeway, a north-south highway forming the westerly boundary of the City; the Long Beach Freeway, a north-south highway forming the easterly boundary of the City; and the completed portion of the Artesia Freeway, an east-west highway which parallels Artesia Street in the northerly section of the City.

The State of California Department of Transportation reports that the Industrial Freeway, located to the southeast of the City of Carson, will not be extended northerly into the City, as originally scheduled. It is proposed that the Industrial Freeway will eventually be extended along the easterly boundary of the City to intersect with the San Diego Freeway and provide a freeway corridor from the harbor area to the San Diego Freeway System.

Streets in Industrial Areas

There are certain collectors which serve industrial areas, including the entrance, interior and loop streets, which generate high traffic volumes by employees during peak hours. Additionally, these streets accommodate industrial truck loading and unloading. Therefore, these industrial streets should provide minimum rights-of-way of 84 feet, with the exception of minor interior industrial streets with less traffic flow, such as, industrial cul-de-sacs, which should provide a minimum right-of-way of 64 feet.

Historical Background

Prior to incorporation of the City in 1968, Carson's streets and highways were included in the Los Angeles County Master Plan of Highways. Upon incorporation, the City adopted the County Master Plan of Highways within the City boundaries.

In addition to the Master Plan of Highways, the City also has a Select System of Streets which designates primary interest streets which are eligible for funds from the Federal Aid Urban Program. This program, in conjunction with revenue from state

gas tax monies, is an important consideration in the City's fiscal prospect for providing road maintenance and improvements.

Problems and Issues

Several circulation-related problems and issues have been identified for the City of Carson. These include:

- The existing freeways create physical barriers within and adjacent to the City. The most significant barrier is created by the San Diego Freeway which transverses the City in an east-west direction at its midpoint, separating the Carson Mall and California State University-Dominguez Hills on the north from the Civic Center on the south. The Artesia Freeway will eventually be extended westerly to the Harbor Freeway and completely bisect the northerly portion of the City. These state highways have a major effect on the north-south streets and highways because many of these streets must be interrupted due to the freeway system.
- The street system in some limited areas is in poor condition. Paving surfaces, curbs and/or gutters are missing in some of the streets, and rights-of-way are nonexistent or narrow in width.
- Carson is serviced by three railway lines: The Southern Pacific, Atchison, Topeka & Santa Fe and the Los Angeles and Salt Lake Railroads, all of which create certain physical barriers in the City. Hauling of freight will continue to be an important factor in Carson due to the proximity of Carson to the harbor area; however, the negative impacts associated with at-grade crossings must be addressed over time. Grade separations are recommended at all major intersections with railroads where it is deemed economically feasible and practical to establish a bridge or tunnel crossing.
- There are discontinuities in the major and secondary highway system. These discontinuities are either missing portions or gaps (such as Del Amo

Boulevard between Avalon Boulevard and Figueroa Street, and Central Avenue between Victoria Street and 190th Street) or capacity constrictions, (such as the extreme southerly portion of Avalon Boulevard south of the City limits and Central Avenue north of Victoria Street). The Circulation Element recommends a cohesive network of streets and highways be completed.

Recommendations, Actions and Improvements

The following actions and improvements are recommended by the Circulation Element of the General Plan:

- The rights-of-way of all major highways, secondary highways and collector streets should be established to ensure that they conform to the standard set forth in this plan and to ensure that new construction will be set back far enough from property lines to permit future street widening.
- Each new residential, commercial or industrial subdivision should have an appropriate circulation plan that serves the planned uses in the area and facilitates traffic movements to, from and within the area.
- Discontinuities in the major highways and secondary highways should be eliminated so that the City will be served with a fully integrated system with adequate capacity and continuity.
- Traffic operation improvements should be made, wherever necessary, to relieve congestion, reduce accidents, eliminate problem intersections and facilitate turning movements. This may include improved signalization, traffic channelization, street widening, street closures and separated or improved grade crossings with railroads.
- Provide for public input to the appropriate City Departments whenever traffic-related problems are perceived.
- Subdivision improvement standards have been adopted to help prevent future deficiencies.

- Commercial vehicles, or any vehicle exceeding the maximum gross 6,000 lbs. weight limit, will be restricted to use designated truck routes designed to accommodate such traffic. Specified truck routes have been adopted to avoid disturbances in residential areas. The Circulation Element includes a map designated as the "Truck Route Map," and this map outlines the streets and highways utilized in the truck route system.
- The Del Amo Boulevard extension, between Avalon Boulevard and Figueroa Street, should be completed to improve circulation and access for adjacent commercial and industrial uses and to open up areas for new development. This extension will require a new bridge over the San Diego Freeway. The State of California Department of Transportation (Caltrans) is encouraged to give this project high priority and to commit to its early completion.
- The City of Carson supports and will cooperate with Caltrans and the Southern California Association of Governments with respect to the development of rideshare lanes (designed for possible conversion to rail) on the Harbor Freeway, with stations at key locations south of the San Diego Freeway to San Pedro and to Long Beach via the San Diego Freeway.
- The City of Carson supports the establishment of the Southern California Rapid Transit District maintenance facilities in the community and encourages the expansion of mass transit (bus) routes in the City and surrounding areas.

Summary

The Circulation Element includes a map indicating the Select System of Streets. The map is titled the "Master Plan of Highways."

The Circulation Element was originally approved by the City Council with the adoption of Resolution No. 71-181 on December 6, 1971. This Element was a portion of the original General Plan document, and the updated information contained

in this new document is intended to supercede and replace that portion of the original General Plan document in all aspects.

The Transportation Element, Phase I (Streets and Highways), Part I (Master Plan of Highways) was originally approved by the City Council with the adoption of Resolution No. 71-108 on August 2, 1971. The Transportation Element is hereby deleted from the list of the City's General Plan documents and material from the original document is incorporated into this Circulation Element.

BICYCLE FACILITIES SECTION

THE BICYCLE FACILITIES

SECTION OF THE CIRCULATION ELEMENT

Introduction

This document describes the Master Plan of Bicycle Facilities for the City of Carson. Bicycle transportation is important not only for leisure but as an energy-efficient alternative to automobile travel. The development of the Bicycle Master Plan is based upon the following:

1. A segment-by-segment analysis of individual corridors to determine their potential for accommodating bicycles. This includes an analysis of alternative types of bicycle facilities, accident history, bicycle and motor vehicle volume, service area, etc. For the purpose of determining facility type, the following definitions were used:
 - Class I. A graded and surfaced pathway on a completely separated right-of-way **designated** for the **exclusive** use of bicycles (bike path).
 - Class II. A restricted lane on the surfaced roadway of an existing public street designated for the exclusive or semi-exclusive use of bicycles (bike lane).
 - Class III. A shared right-of-way which must accommodate both motorists and bicyclists (signed bike route).
2. The collection and evaluation of data to provide insights into the needs and problems of bicycling in Carson. These data include: (a) the results of a bicycle questionnaire, (b) bicycle/pedestrian accident distribution, (c) bicycle/vehicle traffic counts and (d) other city experience with bicycle facilities.
3. The designated routes, by classification, which collectively comprise the bicycle plan system of corridors for the City of Carson.

4. The establishment of priorities to guide the implementation of the bicycle plan.

The Bicycle Master Plan consists of designated routes for each classification of bikeway corridors: bike path, bike lane and signed bike route. The document contains a map titled the "Carson Master Plan of Bikeways" outlining the recommended bikeway corridors, and it establishes a priority improvement program to guide the implementation of the plan.

The City's bicycle facility program begins with route signing only and progresses to testing of bicycle lanes. It can then work towards informing and educating Carson residents in the proper methods of operating within a bicycle/motor vehicle environment, ultimately leading to a full program of bicycle facilities, education and enforcement of operating violations. However, before implementation of any bike route is made, a thorough traffic study should be conducted to justify its implementation with respect to all potential traffic and safety conflicts.

The bicycle facilities priority implementation program is as follows:

Bicycle Master Plan Priority Implementation Program

Class III Routes

Limits

All Class III designated routes on Master Plan, plus Class II routes, if money available to provide linkages.

Routes include:

Victoria Street	Dominguez Channel to Wilmington Avenue
Main Street	Walnut Street to Victoria Street
Turmont Street	Avalon Boulevard to the easterly terminus of Turmont Street
Chico Street	213th Street to Dominguez Street
Dominguez Street	Chico Street to Leapwood Avenue
Leapwood Avenue	Del Amo Boulevard to Dominguez Street
Carson Street	Alameda Street to Santa Fe Avenue
Dolores Street	East 213th Street to Sepulveda Boulevard
Sepulveda Boulevard	Harbor Freeway to Wilmington Avenue
213th Street	Main Street to Wilmington Avenue
223rd Street	Harbor Freeway to Department of Water & Power Transmission Lines
190th Street	Avalon Boulevard to Wilmington Avenue

Class II RoutesLimits

Avalon Boulevard	Greenleaf Corridor (Southern California Edison Transmission Lines to Del Amo Boulevard)
Del Amo Boulevard	Main Street to Santa Fe Avenue
Main Street	Del Amo Boulevard to Torrance Avenue
Central Avenue	Del Amo Boulevard to 190th Street
Torrance Avenue	Main Street to Harbor Freeway
Santa Fe Avenue	Del Amo Boulevard to San Diego Freeway
Carson Street	Avalon Boulevard to Alameda Street

Class I RoutesLimits

Department of Water & Power Transmission Lines	San Diego Freeway to Sepulveda Boulevard
Central Avenue	190th Street to Greenleaf Boulevard
Dominguez Channel	Victoria Street to 223rd Street
Edison Transmission Lines	Central Avenue to the prolongation of Walnut Street
Walnut Street (Easterly and Westerly Straight Line Prolongation)	Edison Transmission Lines to Figueroa Street
Alameda Street	Sepulveda Boulevard to Del Amo Boulevard

Summary

The Bicycle Facilities Section of the Circulation Element (Bicycle Master Plan) was originally approved by the City Council with the adoption of Resolution No. 80-272 on November 17, 1980. The new information is intended to supplement the original document which is still valid.

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